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ORIGINAL ARTICLES.

THERMOMETRY OF THE DOMESTICATED ANIMALS.

AND ITS USE IN VETERINARY MEDICINE.

BY AUG. ZUNDEL.

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The sex has also an influence on the temperature; thus, by mares and cows, we find it 0.5° higher than by stallions and bulls; and the same holds good for sheep. During the catamenial period in cows (bulling) the temperature has been observed higher than normal, and this being more marked in the vagina than in the rectum. Rueff observed an increase of about 0.3°. As we have already remarked, the temperature is increased in pregnant animals, especially in the vagina, which may be attributed to the fœtus being in close relations to these parts, since the fœtus is about 0.2° to 0.5° warmer than the mother.

By thoroughbreds, (or sanguinous animals), the temperature is always higher than that of low bred (or lymphatic) animals. Flemming says the difference is from 0.8° to 0.5°, the latter being the rule.

Digestion raises the temperature of the body about 0.2° to

0.8°, therefore we should avoid, as far as possible, our examination during digestion.

Assimilation of food materials only influences the temperature when disease commences from a disturbance in that process. Colin observed that when a fat horse, weighing 410 kilogrammes, (820 lbs.), fasted for a month, it lost 80 kilogrammes, (160 lbs), but the temperature remained unaltered.

In the German "Wochenschrift für Landwirthschaft," von Prof. Birnbaum, v. p. 304, Pflug says that if a horse be kept for a long time in a temperature of 0° c., with bad nourishment, its temperature falls to 36° c.

Gerlach remarks that the temperature commences to sink five minutes after a horse has taken water, and within half an hour it sank 0.8° and remained so for about four hours, after which a reaction followed, with an increase of the temperature.

Various medicinal agents have more or less influence on the temperature of the body. *Alkalies, salts,* (natrium sulphuricum, or kali nitricum) and *weak acids* lower the temperature; but counter-irritants and soothing medicaments, as *plumbum aceticum, tartarus stibiatus, veratrum album,* and especially *digitalis,* act most energetically in this direction, (Hirtz). A decrease of from 2.5° to 3.5° has been obtained by tolerably small doses of these agents. If larger doses are administered, the temperature sinks still more, then it fluctuates, and then sinks still lower, until death closes the scene. If *tartarus stibiatus* be continuously given, it retains the temperature about 2° to 2.5° below the normal point, (Ackermann). *Alcohol,* when given in small doses, acts as an irritant and raises the temperature; but if administered in large doses, and especially if long continued, it produces a decrease of temperature, (Bouvier). *Acidum carbolicum* more so. *Acidum salicylicum,* when administered in large quantities, produce a temperature 1.7° to 2° below the normal, (Statthaus). The narcotic agents, especially chloroform and ether, produce a temporary and quick rise, followed by a diminution of the temperature. By etherization the temperature is lowered about 2.5° to 3°, (Vogely). *Chloral hydr.* is first followed by increase, which, in about eighteen or twenty minutes, is replaced by a de-

crease of the normal temperature to about 1.5° to 2°, (Horand, Peuch). *Morphium* produces a very irregular decrease in the temperature, accompanied with continual deviations. *Camphora*, given in large doses, acts the same as chloral; but if administered in small quantities, it produces a slight increase. *Strychinine* causes an elevation of about 3° to 4° in the bodily temperature, and produces death by paralyzing the heart—before which, however, we observe a quick sinking of the temperature. The *medicamenta aromatica* cause an increase in the temperature; so do the *m. amara*, if administered for some time. *Chininum* (quinine) produces an increase of about 1°.

Cold bathing not only produces a cooling of the part to which it is applied, but also the general temperature sometimes to about 2° or 3°, and by proper hydro-therapeutical contrivances a decrease of 4° or 5° may be obtained; but the so-called reaction soon follows with increase of temperature. A *douche* causes a more general cooling than bathing. *Cold clysters* also produce a general decrease of the temperature of the body, but this is probably more local, as can be well understood from the fact that the thermometer is applied in the rectum. Gerlach says that if they are long continued, the temperature falls from 39° to to 36°. Ice packed upon the body, especially on the abdomen, produces a decrease of 0.8° to 1.7°, which is particularly noticeable in the rectum.

Violent pain causes a sinking in the temperatare (Monteganyza). Traumatism is likewise followed by decrease in the temperature, whether it is the consequence of operations or accidental.

Hemorrhage only produces decrease of the temperature when it is in large quantities and continuous. *Venesection* is uncertain and of short duration in this respect; it may cause a sinking of about 0.1°, but it soon returns to normality and even above. Frese mentions, that immediately after the withdrawal of a large quantity of blood, the temperature falls about 1°, but about an hour afterwards the temperature is higher than it was before the venesection was performed. A permanent diminution of 1.5° to 2° can only be produced by hemorrhages which cause *anemia* and almost death.

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We ought to believe that *exercise* and excessive muscular action causes a considerable increase in temperature, since Helmholtz has shown that muscular contraction is accompanied with generation of heat, and Breschet and Becquerel have discovered by means of their thermoelectrical investigations, that after a muscle had contracted for five minutes its temperature rose 1°. By the thermometer the warmth is not so exactly measured, therefore this heat is not so easily discovered, and it is found requisite to trot and even galop a horse for some considerable time before a rise of 0.9° is obtained, (Siedamgrotzky und Peters). Schmalz also specified, that the highest temperature obtained by continual exercise was 1° above normality, but this soon disappeared again after the animal became quiet.

When an animal *sweats*, its temperature generally rises about 12°; but one or two hours after cooling the temperature is 0.1° to 0.5° below the original point. Sweating horses in their winter coat can cause a sinking of 1° to 1.5°.

After clipping horses and shearing sheep, their temperatures are found to rise about 0.5°, and even 0.8°; but the next day their temperature decreases about 0.5° to 1°, after which an increase again takes place. The temperature, however, remains some days below the normal standard. Siedamgrotzky remarks that the temperature increases more equally in clipped than in unclipped horses, and that they are about 0.1° higher warmer. The equalization also takes place more slowly.

Clothing diminishes the temperature of the body, and this is even more strikingly the case by that which is impenetrable by moisture; and if the body be painted with glue or tar, it produces a reduction of 3.5°, or more. If this experiment be continued till asphyxia takes place, such as the experiments of Fourcault, Bonley, Edenhingen, and Gerlach, by suppressing the perspiration, a decrease of 14°, and even of 18°, was observed before death took place, (Breschet and Bequerel). Fourcault says: If single portions of the body are painted, a decrease of 3.5° is always obtained, although those parts which are free act as compensatory.

In the *moments of death*, we observe a change in the tem-

perature of the body, which is generally a sinking. Sometimes a rise is observed, which may exceed the maximum temperature the animal showed whilst living. This is ascribed to the fact, that the amount of heat lost by dead animals is smaller than that of the living, due to the inactivity of the lungs and skin, as well as the other secretions and excretions of the body; the only source for the generation of warmth after death being the processes of chemical decomposition. Bodies in which the rigor mortis takes place slowly, lose less warmth, and therefore generate more, than those in which it occurs quickly, (Huppert, Dojére). The cadavers of animals, which were tired, or worn out, or had received bad treatment, or been exposed to excessive heat or cold before death, or those which endured a long death-struggle, and those in which rigor mortis takes place slowly, present an increased temperature in their interior, (Billroth, Fick, Huppert). Pflug observed in a case of tetanus a temperature of 36.5° immediately before death occurred; after death the temperature gradually rose in half an hour to 38.5°, after which it again suddenly decreased. It is also known that the meat of such animals quickly undergoes decomposition and fatness, and that it is impossible to preserve it by smoking or salting.

Edwards saw no difference between the summer and winter temperature of animals, but Davy that the temperature was from 0.55° to 1° and 1.66° higher in summer than in winter, especially in ruminants. Richardson says that the temperature increases from May to August, and falls again from October to April, about 0.5°.

Davy found, while on a voyage to Ceylon, that the temperature of the sailors rose as soon as they arrived at the warm latitude, the difference being from 1.7° to 2.15° between England and Ceylon. In traveling from a warm climate to a moderate one, he found a decrease of about 0.88°.

The surrounding temperature as a rule has little influence upon the animal warmth, since by importation the temperature of the animals is observed to be tolerably constant and almost independent of the medium in which they are placed. But quick and continual changes of these media can become harmful, as is shown by phys-

iological experiments, thus: if an animal be cooled to 20°, or heated to 45°, death takes place. The bodies of animals which have their liberty, accustom themselves to the surrounding cold atmosphere, and we observe, even in animals which are exposed to considerable cold, an increase in their temperature of about 0.8°. Animals which are exposed to the sun's rays, in perfect quietude, show a rise of about 1.2° to 2.3°, even when the external temperature is below that of their internal. On the other hand, if the animal can take exercise, or a breeze is blowing, it can easily bear a temperature of 50° to 60°, without their internal temperature rising above 0.5° to 0.8°.

We observe periodical variations in the temperature of animals thus: In the evening it is generally higher than in the morning. According to Gerlach, Rueff, Siedamgrotzky, and Bayer, the temperature in the evening is at least 0.1°, and often 1.2°, higher than in the morning. Chossat had already observed this deviation, and recognized it as normal. It may be observed in most diseases, and when the evening temperature is lower than that of the morning, it may always be considered as a critical sign. Brusasco quotes, that the maximum temperature of solipeds and cattle is between 5 and 7 A. M. and 9 and 10 P. M., the minimum being between 3 and 5 P. M. and 8 and 10 A. M. In the dog the maximum falls between 1 and 2, and 5 and 8 P. M., the minimum between 3 and 5, and 7 and 8 A. M. These deviations, however, are very small, only amounting to about .1°.

Disease causes the bodily temperature to depart from its physiological boundaries, the variations always standing in relation to the violence of the disease. The temperature seldom rises more than 2° to 3° above the normal standard in our domestic animals. As soon as the temperature has risen 5°, we may consider it as a bad sign; since this high temperature, so to say, burns up the body, *i. e.*, consumes it. A decrease in the temperature is just as dangerous as the above, for a reduction of 8° or 10° may be looked upon as a sign of death.

During *inflammation* the temperature rises, and the increase is in exact relation to the degree of the inflammatory fever. The inflamed part is warmer than the surroundings, but this is very

little and not at all in proportion with that of the general body The inflamed part often shows a lower temperature than the rectum; the general increase in the temperature of the body is less influenced by the local inflamed tissue than by the fever-reaction, and the convulsions which take place in the organism against disease. So soon as the disease has attained its crisis, the temperature ceases to increase.

In the initial stage of acute catarrh of the respiratory organs, as in *strangles* or *bronchitis*, the temperature is often very high (40° to 41°); and, on acccount of other unfavorable symptoms, we often fear violent complications, such as *pneumonia*; and the more so, because the respirations are generally increased in number, sometimes very strikingly so. But the temperature, as a rule, falls to the normal point within four and twenty hours. (*Pflug.*)

By *pneumonia*, the increase in the bodily temperature is exceedingly marked; it is often 3° above normality at the close of the second day, which in the horse, is always somewhat above or below 42°, at which temperature it generally remains from the second to eighth day, being modified only by the usual morning and evening fluctuations; after which period, in favorable cases, it sinks tolerably, quickly and constantly almost to the normal temperature. During the whole stage of resolution the temperature remains about half a degree above that of health. The highest temperature which has been observed in *pneumonia* is, according to Bayer, 42.6°, in which case the animal died; in another case, a temperature of 42.3° was observed for three days, the animal recovering. Sometimes the temperature rises 2° without any striking increase in the number of respirations; and only one or two days after, is infiltration in the lungs detected by percussion. The same increase in the temperature is observed at the commencement of disease, and can be recognized much earlier than by the ordinary symptoms; again the amelioration of disease may often be pointed out by the fall of the mercury, although the symptoms of disturbance be still present. If the temperature remains at a high point for any length of time, it is always indicative of apprehension; yet we are not in a position to give any precise limit which is absolutely dangerous to the life of the ani-

mal. Death does not always occur when the temperature of the body is high, but sometimes after a sudden fall.

A differential diagnosis between pleuritis and pneumonia by the thermometer does not appear to be possible, for Bayer observed much the same phenomena in the one as the other. In chronic pleuritic exudations, the temperature remains at about 39°c. in the horse.

In *acute rheumatism of joints*, C. Harms says the temperature is about 2° above the normal condition.

When diseases of an inflammatory nature take on the healing process, the temperature slowly decreases about 1° in twelve or twenty-four hours; if, on the other hand, the temperature suddenly falls, as from collapse, the patient is in great danger, and in all probability will die.

There is an increased temperature in all *fevers*, being a characteristic phenomena of fever, which also provides us with the best means of ascertaining its intensity. In human medicine, fever plays a very important part and is very exactly observed; owing to which the thermometer has become a valuable means of diagnosis. For instance, in cases where the symptoms are not developed, or perhaps an uncomfortable feeling is the only symptom present, the pulse and other phenomena being little changed, the thermometer often proves very valuable in forming a diagnosis. This stage of the disease, however, is seldom noticed in our domestic animals.

Cl. Bernard, after whom Leyden, Traube and Liebermeister proved that the increased warmth was the principal symptom of fever as the old name fire or *felvis* (from fevere–to boil) or pyrexia (fire) long ago indicated, as did Galen when he spoke of the *calor prætor naturam*. In fevers, where extraordinary heat is suddenly generated, the temperature rises very fast, as we may sometimes see an increase of 4° within an hour; the decrease however often follows just as quickly. In the fever-shiver, and even before, an increase may be detected long before any alteration can be found in the pulse. During the state of fever the temperature always remains high, therefore the loss of heat is greater; and if the disease decreases in intensity, or the animal

breaks out into a sweat, we notice the thermometer falls and the temperature returns to the normal condition. If the temperature of an animal continues for any length of time at 41° to 42° it should always be looked upon as unfavorable, especially when it is not influenced by the normal fluctuations of morning or evening. A high temperature can be endured longer, when it is interrupted by the morning decrease; a continual high temperature produces an extraordinary loss of condition (flesh, etc.) the so-called fever-consumption (rapid-emaciation).

(TO BE CONTINUED.)

MELANÆMIA.

Read before the United States Veterinary Medical Association, by A. Liautard, M.D., V.S.

The specimens which I beg to present to you to-day, were obtained from a grey horse, which is not unknown to some of you. In the May number of the REVIEW, page 67, Dr. C. H. Hall, then house surgeon to the hospital department of the American Veterinary College, reported the case of an operation which was performed on the same horse, for the removal of a melanoma, removed on said animal from the inferior cervical region, a little to the right of the median line, just under the lower portion of the levator humeri; an operation which was so far successful, that some twenty days later the animal presented nothing but a slight cicatrix, and was able to resume his work.

This horse was kept working as a cart-horse until the third of July, when Dr. Robertson's attention was called to him. He found him dull in appearance, with a painful walk, and grunting quite loud when made to move or to turn round; the dorsal region was somewhat swollen. Attributing this condition to probably an attack of rheumatism from exposure, the doctor directed him to be sent to the College for treatment.

At its entrance to the hospital, the following condition was noticed by the house surgeon in charge, Dr. Alvord H. Rose: The animal was dull in appearance; when made to move, it would give a peculiar grunt; the animal standing with his fore extremities abducted; the appetite is somewhat diminished; temperature 100° F.; pulse soft, about 40; respiration short and quick, with dilated nostrils, more so in inspiration—about 15 in number; his head was carried down, ears dropping, extremities slightly cool; the spinal region near the loins is swollen, more particularly on the left side.

The diagnosis I made differed considerably from that of rheumatism, as, taking into consideration his past history, I suspected the development of melanotic growth in the pectoral cavity, possibly pressing upon the laryngeal nerve and giving rise to the peculiar roaring exhibited while moving and turning.

The prognosis was unfavorable, as it was beyond possibility of removing such growth, supposing that it could have been reached for dissection.

The animal received but little treatment, beyond the administration of a cathartic given to him shortly after his admission. He was placed on close observation, and presented but little alteration in his general symptoms. His general functions remained about the same, and but little or no change could be detected until the 15th, when his temperature rose to 102°, his pulse to 50, and his respiration became a little more labored. On the 16th he did not lie down, and on the night of the 18th died.

The post-mortem was made the next morning, and proved to be one of the most interesting I ever made, the lesions being so extensive and characteristic of general melanomatous disease.

On removing the skin, the muscular apparatus is filled with melanotic deposits of small size spread here and there, the muscular tissue being somewhat paler than is usual. On opening the abdominal cavity, the peritoneal surface of the abdominal walls is covered with several melanotic tumors, varying in size from that of a pea to that of an apple; all are pedunculated and surrounded, but not covered, by the fatty layer which lines these walls. The diaphragm on its abdominal surface presents also

numerous melanotic growths, some of which are of the size of a ladies' apple. The large mesentery presents the most handsome appearance; it is a mass of melanotic balls of different size, counted by hundreds, hanging here and there in the whole extent of that peritoneal surface, and presenting, by their black prominent color, a very peculiar aspect, contrasting considerably with the color of the serous layer and its adjacent fatty deposits. The spleen is somewhat large, but apparently healthy, as well as the liver. The left kidney is almost entirely enveloped by an enormous melanotic mass, weighing 37 ounces, through which large blood vessels are found, which are coming from the posterior aorta. This presents little grape-like masses, which run through the inter costal spaces and extend in the muscles of the back. The other kidney, as well as the other organs of the abdomen, are healthy. The thorax is also the seat of extensive disease. There we find three large melanotic tumors, one at the base of the heart near the concavity of the aorta, which weighs 18 ounces; another is found in the anterior mediastine, extending forward between the first ribs, which weighs 14 ounces—probably this was connected with the one which was removed eighteen months ago. Another is imbedded in the outer surface and superior border of the left lung; it weighs 61 ounces. The pulmonary tissue surrounding is the seat of local chronic hepatization, rather limited. The nervous system was not examined.

This case, gentlemen, is undoubtedly one of general metastatic diathesis, or of melanhemia, as Zundel calls it—one in which the corpuscles of pigment are intermixed with the normal elements that are held in suspension in the blood, and deposited in the tissues by the continual traveling of the general circulation.

In horses* this disease is particularly common to observe, and, peculiar coincidence, almost exclusively amongst white horses whose skin has no pigment. In that animal the melanosis is almost always formed by a pigmentary mass deposited in block in a cellular envelope, which furnishes intermediate lamellæ, dividing the tumor in lobes and serving as supports to the nutritive blood vessels, which are always abundant.

*Zündel.

In both cases it has the aspect of a blank, homogeneous substance, sometimes grayish, ordinarily firm in consistency. The coloring matter which constitute them is soluble slowly in water and alcohol, and colors these fluids when kept in them.

Melanotic tumors have a natural tendency to increase in size by additions to the primitive nucleus; and once at a certain dimension, they remain stationary. In horses they may assume enormous size, such as 30, 40, and even 50 pounds, but most ordinarily they remain small and no bigger than a hazel nut, or an apple, or even smaller, such as a pea, in which case they are found around the glands. The tumors may remain isolated or collected in large numbers, or found in all the organism, as in melanotic diathesis.

Melanotic tumors do not always present themselves under the solid form which were found in this animal, especially when they assume the largest size, as the one found in the kidney and left lung. They are susceptible of softening, and become transformed either in part or in lots, in a kind of pulp or mud, which afterward ulcerate, throw out a dark, reddish liquid and leave ulcerated surfaces, sometimes called melanotic cancer, which then assumes an ugly appearance, very rebel to cicatrization, but rarely increasing in size. Virchow, placing them amongst the sarcoma, classifies the melanotic tumors under three separate groups: the simple melanoma, the melano sarcoma, and the melano carcinoma, and thus, admitting the possibility that there may exist *true mixed forms of sarcoma* and of *carcinoma*, or of tumors which may contain sarcomatous and carcinomatous elements, we have an explanation of the possibility of the softening of these growths, and of the malignity which accompanies, very often, their development—a point of great importance, and which must not be overlooked in the prognosis of these tumors. Such, especially, prove to be the case in this horse, for which a fatal termination was predicted when the first tumor was removed.

The pigmentary infiltration* is admitted as the cause of the pathologico-histological alteration, that is an infiltration of coloring substance, of pigment in the tissues, which pigment

*D'Arboral Dictionary, by Zundel.

is the result of a chemical transformation of the hematine of the blood corpuscles, which by modern researches have proved to be of the same nature as the coloring matter of the blood. However, this pigment of the melanosis does not differ from that which is, physiologically speaking, produced in the epithelium of the choroid of the eye, in the network of Malpighi of the skin, &c. According to Reindfleish, there is first a diffused imbibition of the tissues by the coloring matter, then a period of granular or crystalline precipitation of the pigmentary matter. This granular pigment is formed, as indicated by its name, of very small granulations, yellow, brown, or black, collected in small masses and mingling in larger and more homogeneous masses. When these granulations fill up the protophesma of a cell, the colorless nucleus is pushed aside, or surrounded by the pigment, and it seems that the pigmentary cell presents a round lacuna, or a hole. In the round cells, the nucleus soon becomes invisible, and then it remains a pigmented corpuscle, in which the external form of the cell is lost. Sometimes the walls of the cell disappear, and it is then that is formed the melanotic mass free, specially found in horses.

Though the condition of development of melanoma are yet almost unknown, Bruckmueller says that they always form themselves in the cellular tissue, especially the sub-cutaneous or subserous tissue. This was proved also in this post-mortem, where the principal growths were found under the peritoneum, between its layers and under the serous lining the thorax cavity, the pleura. But they are also frequently met in parenchymatous organs, in lymphatic glands, heart, liver, lungs, kidneys, and spleen.

It is this formation* of melanosis in the cellular tissues, which explains how these tumors are observed in all the parts of the body, as well internally in viscera as externally on the skin and in the subcutaneous cellular tissue. External melanosis are often found in horses, round the anus, at the base of the tail, and round the vulva. First of small size, these productions increase and become as big as a pigeon's egg. In growing they assume irreg-

*Zundel.

ular forms, and soon gathering together, take as they increase the shape of abnormal vegetations, without suppuration but painful to the touch. These tumors are often hairless, as the result of the pressure on the hair follicles by the accumulation of the pigment; still the sebaceous follicles remain and the skin is soft and shying. Melanotic growths are also found at the mammae and in the sheath, where they often interfere with micturations or with general circulation; thus producing swelling of these parts which have been mistaken as fore-runners of symptoms of glanders and farcy. At times they are found in parts of the body where the hairs are abundant, as the base of the ears, the axilla, and are then easily detected by the external deformity they produce. They are common in the inguinal region, and we have found it connected with squirrous cord. They are seen in the parotid region, in the internal angle of the eye at the caruncula lacrymalis.

Amongst the most frequent internal melanosis we find those of the peritoneal cavity, of the cellular tissue of the pelvic, round the rectum and in the sub-lumbar region, near the large blood vessels and the sacral plexus. Tumors at the peritoneum are generally small and in the mesentery, specially the great, assume the beautiful aspect presented in this specimen.

Melanosis of the intestines proper are rare and then generally small. Rodet* says he has found them on the small intestine and the external walls of the colon. Gurlt has also seen them on the intestine mucous membrane of the cow. Trousseau and Leblanc have found them in the kidney; still they are said to be rare. In the liver, they have been seen amongst horses and dogs, in the first as big as the fist, sometimes superficial, sometimes in the parenchyma of the organ. When they exist in the liver they are seen also in the spleen, as they are reported by Levrat and Bruckmuller, who reports a case where the spleen weighed no less than forty-five pounds. In the pancreas they are also found when the other parenchymatous organs of the abdomen, viz: the liver and the spleen, contain them. In the thoracic cavity melanoma have been principally observed in the lymphatic glands at

*Zundel.

the entrance of the chest and on the bronchial ganglions. The lymphatic glands generally become easily the seat of pigmentary infiltration, specially if situated near a melanotic tumor. The lungs contain them also, but they are more rare and principally metastatic. Mandel has seen a horse in which three quarters of a lung were filled with a large and heavy bunch of melanotic growths. When the lungs are thus affected, the heart presents them also and the pericardium is often covered with little perdunculated masses of small size.

The nervous system is not exempt. The base of the brain, its envelops and even the nerves themselves may contain them. Bruckmuller cites a case where they produced paralysis. In the eye, the sclerotic, the choroid and the retina have also presented melanotic tumors.

At last the bones, the muscles, the parotic glands, the thyroid bodies may also be found the seat of a pigmentary infiltration.

Melanosis is generally slow and mild in its development; and though it seldom kills an animal, it is not without danger. Animals thus affected lose much of their value. They may still live long, though it is generally admitted that their life of usefulness is short. It is generally only by the excessive size they may reach or by their number, that they become injurious; or by becoming soft and ulcerated.

If, however, in general* the presence of melanosis is compatible with healthy condition, they may become dangerous by giving rise to serious phenomena. They may interfere with the execution of a function. Near the anus, they may prevent defecation; at the penis, interfere with micturation. Olivier mentions a case where a tumor was pressing against the æsophagus, and from which food, liquid and solid, was stopped in its way to the stomach. Cases are recorded, where, by pressing against blood vessels and nerves, they gave rise to rebel ædema of the extremities and to paralysis. Pauleau has seen it pressing upon the pneumo-gastric, and, as consequence, the animal was a roarer. They may interfere with the motion of a joint, or produce the complete dislocation of the globe of the eye. Developed, as they are in

*Darboval Dictionary by Zundel.

case of melanhemia, these growths are most injurious to the economy; either by the alteration of the structure of the organs, which thus are deprived of their functional powers; or by the great quantity of material which they assimilate; or by the possibility of hemorrhage, which may accompany the rupture of vascular organs, where they may develop themselves, as in the spleen and the liver.

Though white animals are mostly the ones affected, bays and chestnut horses are not free from this disease. Dogs of all colors have shown them, and Bruckmuller says that white dogs never present them.

Melanotic diathesis is an hereditary disease, as it was demonstrated by the observations of Brugnone, Prinz, Gohier and others. And it is by heredity that it was introduced in some country where a white stallion, having been used for breeding purposes, had all his produces, male and female, affected in the same way. It is remarkable, however, that animals thus affected have great power of reproduction, and Girard, jr. attributes this condition to the irritation that these tumors may produce upon the organ contained within the pelvic cavity.

The curability of the disease may be considered under two points of view. It is incurable if the accumulation of pigmentary substance is only considered, as it is not in our power to prevent it; but if merely the treatment of one local tumor is considered, it may be possible to remove it, if even of large size, and heal up entirely. But there is no need to be hasty in interfering with the presence of one of these tumors, unless it interferes with work or some special function; as it has been observed that the removal of one is often the cause of a new life in the development or growth of other melanotic deposits, which otherwise might have remained perfectly harmless.

EDITORIAL.

THE MEETING OF THE UNITED STATES VETERINARY MEDICAL ASSOCIATION.

As we announced in our last number, the Sixteenth Annual Meeting of the United States Veterinary Medical Association

took place on the 17th of September, in the American Veterinary College, and proved a perfect success. Since the foundation of that body, in 1861, there never was a better or a larger attendance, even at the meeting held in Philadelphia in 1876. The meeting of the Comitia Minora first transacted some minor business, and was followed by the general meeting of the Association. After the usual routine, reports of committees, election of officers, admission of members, &c., the next business in order was the reading of papers and discussions; and, contrary to what was the general custom of the Association, quite a number of interesting matters were presented. The day closed by a splendid dinner, where all the members gathered together and kept enjoying themselves until ——, (very early in the morning). Toasts to the Association, to the Veterinary, to the Medical Profession, to the American Veterinary College, and to the Press, were answered by the different members present, and everything passed off to the satisfaction of every one.

The United States Veterinary Medical Association, composed, as it is, mostly of regularly educated Veterinarians, of certified members which in old days did not have the opportunity of attending regularly chartered schools, and of a few self-made practitioners, has the right to feel proud of its position and of the work it performs. It is, no doubt, called to be one of the most solid pillars of the profession, if the good feeling and *bonne entente* which prevailed at this last meeting can be kept up. We reproduce, for the benefit of those who were prevented from attending the meeting, some of the papers which were read, and also a full account of the business transacted.

NEW MEMBER OF THE PROFESSION.

It is with great pleasure that we announce the success which has crowned the studies of Mr. F. S. Billings, at the Imperial Veterinary School of Berlin.

Known to our readers by the numerous good articles which they owe to his pen, he is besides personally acquainted with some amongst the veterinarians of this country; and we hope he

will soon be able to assume in America the rank which his high studies will undoubtedly give him right to.

There is something interesting in the graduation of Mr. B. which ought to flatter our American confreres, and that is that *he is the first American graduated at a German school*; and of course, on the standard assumed by our correspondent, it is an important position. German entirely as he has proved himself in his writings, we cannot expect from him other than Germanized principles. But with all that, he has graduated with the highest honors; and for one, who but three years ago was ignorant of the German language, this is highly flattering.

Though having received his degree of *Veterinarius* from Berlin, Mr. B. does not consider his studies as complete. He writes to us that he goes soon to study with Wirchow, and that after passing some time with this great master, he intends to go to France and take advantage of what the veterinary schools of that country can show him. Knowing these places as we do, we are much pleased to see him going there, as some of his impressions in relation to those schools will, we believe, be advantageously modified.

At the end of his French studies, we understand that he is to return home, to that home of good veterinarians, Massachusetts, and at Harvard College study for the degree of M.D. This step is an excellent one and in our days of all titles, true and false, regular and irregular, attained by hard work or assumed by imposition, the diploma of M.D. will probably be one of his best means to arrive at the object he has in view, if we can judge by his articles on Veterinary Education published in *Turf, Field and Farm.* For it seems that nothing else can be undertaken by our worthy colleague, viz: the realization of what he considers the ideal of Veterinary schooling.

It is true that, with his education, medical as well as veterinary, he may lay claim to almost any position connected with the two medicines. The formation of a General Sanitary Bureau, at Washington was talked of, and he would no doubt be an excellent man for the position. A department for medical and veterinary investigations would give him a great opportunity

to apply his extensive and thoroughly acquired knowledge; but, it appears to us, that at the wheel of advancement of veterinary science proper, is his place.

Speaking of Claude Bourgelot, the father of veterinary medicine of the world, when alluding to his talents, his earnestness, his enthusiasm, Mr. B. says, in relation to America: "*We need twelve men like him.*" Let our friend return to his native land, to his state, and let him be one of the twelve; he may find some worthy companions in the realization of his work.

While, however, we congratulate our profession in America at the success obtained by Mr. B., we cannot but regret that it may be some years yet before he has joined our ranks. The veterinary profession is passing now a serious crisis, and is in a time when she requires all the efforts of her members and her friends, to protect her against the rapacity of the constantly assailing hydra, which, in the shape of unscrupulous and unworthy individuals, are every moment attempting to drag her in the filth of empiricism and imposture.

Student of Gerlach, enemy of quackery, well educated, and with his facile and quick pen, he must remember that the American Veterinary profession needs many like him in her small army of followers. We hope, therefore, that Mr. B., in his studies, will not forget us, and continue to provide our readers with many articles, which we have no doubt will, like past ones, prove most interesting to them.

NOTICE.

On account of want of space we are obliged to postpone to our next number important communications which were received some time ago, and also the other papers read before the Association. Mr. Myers' article and a letter from Prof. McEachran, on Veterinary Titles, will appear in the November issue.

THE UNITED STATES VETERINARY MEDICAL ASSOCIATION.

The sixteenth annual meeting of this Association was called at 12 o'clock, M., in the lecture-room of the American Veterinary College, 141 West Fifty-fourth St., New York City, on Tuesday, September 17th, 1878, with the President, C. P. Lyman, in the chair. Members present were: L. T. Bell, J. F. Budd, J. C. Corlies, O. H. Flagg, J. D. Hopkins, A. Liautard, C. P. Lyman, G. Penniman, C. Burden, J. B. Cosgrove, W. J. Coates, A. A. Holcombe, C. H. Hall, A. Lockhardt, H. H. Lawrence, L. V. Plageman, J. L. Robertson, E. F. Thayer, J. H. Stickney, and T. S. Very.

The minutes of the previous meeting, held in Boston, on March 19th, were read and accepted without revision, as also was the report of the Comitia Minora.

The Committee on Diseases, by its Chairman, T. S. Very, of Boston, Mass., reported as follows:—

Mr. President:—Having been appointed on the Committee to report on Diseases, with instructions to report on the diseases of horses' feet, I beg leave to present the following:

There has not occurred, in my practice, neither have I seen, any unusual case of lameness worthy of particular record or comment, during the past year. Most of the cases that I have seen, were of the kind commonly met with, some of which have yielded surprisingly to simple treatment, others of which have resisted remedial means that were tried.

One might suppose that there exists at all times a proportionate amount of lameness to the number of animals in use; but I have an impression that the percentage of lameness to-day is much less than it was some years ago. Certainly, this is the case, so far as as my observation goes, in the city and vicinity where I live.

In this, it is possible that I am mistaken, but I am quite sure that the percentage is not nearly so great among the horses used on the street cars, as it was five years ago.

This may be attributed to the fact, that in buying these horses, more pains are taken in selecting them than formerly, and to a better system of shoeing and managing them generally.

I have an impression, that horses are shod better, generally speaking, than they were ten years ago, although to-day the work is done imperfectly enough. But there is something connected with the shoeing of car horses, in which a great change has been made, deserving of more than passing notice.

Five years ago, or more, all of our car horses were shod with shoes having toe and heel corks; now, most of them wear the thin-heeled "Goodenough" shoe. When they were shod with the corked shoe, certainly one in ten was lame. Now that they are shod with thin shoes, so that the frog comes to the ground, there are comparatively very few lame ones. These statements are made from a careful and constant observation of the two methods of shoeing, in their application to this class of horses; and the managers of roads, finding that light shoes and frog pressure work well, adopt and continue the system.

Now, I do not appear as an advocate of the so-called "Goodenough" system of shoeing. The shoe itself is a coarse article, which might be improved, and the system is older than Mr. Goodenough, or almost any living man. But it is my opinion, that horses doing this particular kind of work, do it more acceptably, and at a much less risk to their feet and limbs, when shod this way, than when shod with heavier toed and heeled shoes.

All members of the profession are, or should be, acquainted with all the arguments which have been advanced in favor of the frog-pressure system; and while we recognize the utter absurdity of most of them, still the results cannot be ignored or disputed when the system is properly tried.

Mr. Goodenough once told me, in conversation, that when the horse stepped on the frog, a sort of valve was opened, which allowed a certain oil to run down the leg into the foot, and that this oil kept the posterior parts of the foot in a healthy condition. Also, that frog-pressure expanded the hoof at every step, which was necessary in a physiological point of view. Also,

that contraction of the hoof was the cause of lameness in almost all cases, &c., &c.

There is more or less absurdity in all of such statements, but without stating any reasons myself why this class of horses work better with light shoes and frog-pressure, I have considered it important to notice the fact, and hope to hear an expression of opinion from the gentlemen present, as the subject is one of great importance, and an interesting one at all times.

I will remark, that in practice, I have found it to work badly to attempt any such radical changes as are made sometimes by exponents of the so-called "Goodenough" system. I have known animals to be lame for a long time, because their heels have been cut down immoderately and the frog brought to the ground injudiciously, when a gradual accomplishment of the same object would have been attended with good results; and, therefore, I would suggest that such radical and sudden changes are inadvisable.

I desire to call attention to the fact, that lameness in the hind feet of road horses is much more common than is generally supposed, which fact has been brought to my notice recently in a number of instances.

Usually, we have not paid much attention to the feet, in diagnosing lameness of the hind extremities, particularly if there existed on the hock or other parts of the affected limb an enlargement, supposed to be the seat of lameness. Latterly I have been more careful in making examinations for lameness in the hind limbs, and with more satisfaction to myself, for I have not infrequently found the lameness to proceed from the foot, which at first appeared to come from enlargement indicating disease of other parts.

We all know that it is rarely that a perfect hock is met with, and that a large number of horses having curb, or spavin, are never lame, and for this reason I believe it to be unsafe to state that an animal is lame from curb or spavin simply because such defects are apparent on examination. I say this, because I have made such mistakes, and can remember more than one instance where I have located lameness in the hock or fetlock, when fur-

ther investigation and treatment, which relieved it, have proved it to have been in the foot.

It is a custom, in shoeing road and coach horses, to set the hind shoes back from the toe, to prevent "forging," even where there is no necessity; and it is rarely that the shoes are fitted full to the feet, because horse-shoers generally believe that by setting the shoe inside of the wall the tendency to interfering will be overcome. It is easy to see that such a method of shoeing will often produce lameness from the shoe coming in contact unevenly with portions of the sole of the foot, and perhaps from the nails having entered the foot too near the sensitive parts. If examinations of the feet are made when the shoes are off, very many of them will be found tender, if pressure is applied with the pincers, even in cases where there is no apparent lameness. Some horses that are not lame will prove troublesome to handle, on account of twitching their feet away from the smith when the clenches are hammered down, because the operation is painful to them. Such indications of tenderness are not noticed, except an animal is lame, but in such feet a slight cause will often develop lameness of a persistent nature, which ordinary remedies do not relieve at once.

Horses rest their hind feet by flexing the leg and bringing the toe to the ground, shifting from one to the other, and this to me is an evidence of soreness, as much as when I see them "point" with the fore feet.

I have simply called attention to the frequency of lameness in the hind feet, without attempting any details concerning it, because I have met with it quite often, and because I believe examinations for lameness ought always to include the foot. An animal may be lame from spavin, or other cause, and still the lameness may be increased from some injury to the foot acting at the same time to produce additional pain. If this was known, it might be relieved in season to do a great amount of good.

Hoping that the gentlemen present will discuss the matter of frog-pressure shoeing, and relate their experience, if they have had any, in connection with it, I respectfully submit this somewhat imperfect and hasty report.

B. McInnes, of Charleston, S. C., reported that nothing of any importance to the profession had occurred in his neighborhood since his last report, except a case of hydrophobia in the horse, the history of which he could not obtain, because of the ignorance of the owner. On motion of A. Liautard, the report was laid on the table for further consideration, under the head of "reading of papers and discussions."

A. Liautard, Chairman of the Committee on Education and Intelligence, read the following report:

Mr. President and Gentlemen:—It is not my intention to present these remarks as a report of the Committee on Education, but as I probably understand the duties of such a committee in a wider sense than is generally the case, I hope you will accord me a little of your attention while reading these few pages.

At the last meeting of our Association a subject relating to veterinary education was brought before you, and, after much discussion, a resolution was passed empowering your committee to take any step they might see fit. The object of the whole affair was the call of a convention of all the veterinarians in the country engaged in teaching veterinary science, with the view of arranging a general curriculum for all the colleges, and thus, to a great extent, do away with those beautiful claims, such as "being the only chartered institution in the state," or as "being the school which has the greatest number of graduates in successful practice," and therefore place all colleges on the same footing.

At the time when this resolution was passed, you were made acquainted with the answers which were received in relation to the possibility of calling such a congress, and when your committee took the subject in hand, they soon became satisfied of the impossibility of reaching the desired end. Many interests were at stake, personal undertakings, private ambition were all most likely to be brought in opposition; and, taking all this in consideration, it was thought better to let the matter drop for the present at least.

Probably another subject, which might be brought to your notice by your committee, is an attempt to the regulation and recognition of veterinary practice in the State of N. Y., as made

by the bill presented last winter before the Legislature, in session at Albany. The words of the bill were made known to you, and, therefore, without passing remarks upon the bill, without stating anything about its propriety, its powers, etc., and the objections which were brought against it, we may only say that it was nicely pigeon-holed and left there. Why should I bring this before you now and what has this bill to do with veterinary education? you may ask. With your permission, I will answer that I mention it at present as I consider that veterinary education for me, as one of your committee, is not only relating to education in schools or colleges, and to those who wish to enter that profession, but to education at large—to veterinary education of our people. Why is it that so-called veterinarians, who can neither read nor write, that self-called veterinarians, who are ignorant of any of the fundamental principles of medicine, are allowed to practice? Why is it that veterinary schools are permitted to turn out *regular* graduates after a few months' study of a science which, we all know, requires several years before the beginning of it can be understood? Why is it that here quackery and ignorance, with impudence and audacity, impose themselves on the public, while the self-made or the regularly educated veterinarian has to work hard to make his way? and, finally, why is it that such a bill as the one alluded to was pigeon-holed. The answer I have no hesitancy in giving is, because our people are ignorant of what constitutes the elements of education of the veterinarian, and that for the public as yet, our profession, the business of a horse doctor, of the cow leech, of the gelders, are all the same.

The veterinary education of the people, then, is, I think, a subject which is worthy our attention and deserving some of our efforts.

It is generally admitted by all that the most powerful means of educating the people is the press, and certainly we will acknowledge that probably the educated standing of a nation might be measured by the quality and prosperity of its periodicals, be what they may, political, religious, agricultural, medical or *veterinary;* and if the press is the means of educating the people as to the requirements of veterinary surgery, if by it we can show

what veterinary science means and how essential and important its different branches and specialties are to agriculture, to political and social economy, it seems to me that we will then have succeeded in doing away with all these drawbacks, and that veterinary education will have made a powerful go-a-head step. And now how are we to ask from the press her powerful assistance, and to what special part of it are we going to apply? I may say that any will answer, that scientific columns would certainly be a good means, but that I believe that papers whose subjects are more or less connected with our specialty ought to be preferred. Agricultural papers therefore will, in my estimation, be the ones through which we may attain our object. There is, however, I believe, some distinction to be made in the writings which ought to find their way into these papers. Veterinary medicine has wide range, the connective links of its different branches are found in various specialties, all of which are interesting to the agriculturist, to the stock raiser; here, for instance, it is chemistry, there botany, here zootechnie and hygiene, there general practice and sanitary medicine, without forgetting those important branches, shoeing and laws of warranty, and from them I conclude that they are the subjects which we must take as means of education of our people. It is not—and here, Mr. President, I hope the following will not be taken in any other light than it is intended, in other words, far from me the slightest idea of making any personal remarks, or of throwing blame on what some may consider proper and professional—but I say it is not the gratuitous advice which may be found filling up column after column of the pages of some of our best papers by which we will educate the people on veterinary science. Yes, I not only consider that road an improper one but as one injurious to the profession. Those amongst us who have found time to throw away in reading the many questions and answers which are printed, know as well as I do how useless, how worthless, many of them are.

We know that it is remunerative, we know that it pays, but we are positive that it does no good to the veterinary profession. You will be told, "If I do not take it a quack will, and while I do not sanction it entirely, I think by keeping it away from the

ignorant man I do good to the people, I do good to my profession." No, a thousand times no, you do not, and you are deeply in error in supposing that by doing a quackish act you prevent quackery.

Mr. President, I am surprised at myself when I read these lines, for I am afraid I am unable to express as I would, in a language more familiar to me, to some of my friends who I see amongst us, how erroneously they work when engaged in this gratuitous prescribing.

If agricultural papers offer us so great advantages, I consider that it is greatly on account of the large number which are to be found all through the United States, and the excellent and superior quality of many, but I cannot leave this subject without mentioning the paper of your own profession, the *American Veterinary Review*, and to say a few words of the part it has played and of the influence it might have:

You remember that just two years ago, in this very room, a motion was presented by our worthy President, by which the *American Veterinary Review* was born. You were kind enough to do me the high honor of placing me at the head of the undertaking as the editor, and though I warned you against your choice, and after I pointed out to you how, more competent than myself, many members of our Association there were who could fill the place, I entered into the performance of the duties assigned to me, bound to do my best and succeed if success was possible under the circumstances. In a few words, with what results have these two years of the *Review* been passed? A circulation three times as great as when you began, and a recognition from England, France, Belgium, Germany and Italy, which extracts from our paper—such is what has been done. No debts and supporting itself—such are the results.

But satisfactory as these are, and proud as I am to know that I have been instrumental in securing them, are they sufficient and are they the utmost which might be expected from the *Review?* No, it ought to be that very part, essential part, of the press by which we can bring our profession forward and educate the public in the knowledge of the appreciation of the veterinarian.

I may here suggest, in relation to the *Review*, that it seems to

me the time has come when I ought to lay before you the honorable position you have given me and make room for one whom you might deem better fitted to continue the good work so far done, but in so doing I would ask to be allowed a recommendation which past experience has shown me to be of the greatest importance. Give your editor *carte blanche* for his management of your interests in the paper, and above all, let him make his own choice of his assistants. I am positive the *Review* will gain by it. Let him surround himself, not by a few of the same city, by practitioners who will see almost through the same light, but on the contrary let him pick out his assistants here and there, east and west, north and south, at home and abroad, and I guarantee it will not be by triple but by ten, fifteen times that you will count the number of your subscribers, and by this increased circulation give a larger help to public education.

One word more and I finish. One word in relation to essentially veterinary education, to the American Veterinary College, in the welfare and success of which I hope all of us are interested. You all have watched the efforts of the faculty; you all have appreciated the obstacles they have found in their way; you all know of the slurs and insults which were thrown at that institution, to such an extent that even a few amongst us said they felt sorry of the equivocal position of the school. That never existed, and there can be no more doubt, no more fear expressed towards that school. This, remember, gentlemen, is not a city, a State affair, properly speaking; it is our college, if we call ourselves the United States Veterinary Medical Association; the college, though situated in New York, is the American Veterinary College, and what may ever happen in the progress of veterinary science in America, I believe it will be called to be one of the fundamental stones of what may come. It will therefore be satisfactory to you to hear that the college has never been in better condition, that her alumni are all engaged in good and lucrative practice, that her students are coming and coming again from all parts of the country, and that her professional standing abroad or at home is as high as any old institution would desire to be.

The Committee on Prizes reported that but one paper had been presented for their consideration, and owing to an informality upon the part of the author, it could not come before the Association for their prize. The chairman further reported that the prize offered by F. S. Billings, of Berlin, for the best paper on anthrax, had been awarded to J. F. Winchester, B.S., D.V.S., of Lawrence, Mass., and the Secretary was instructed to inform the recipient to that effect.

In accordance with the recommendation of the Board of Censors, the following gentlemen were elected to membership: J. F. Winchester, B.S., D.V.S., Lawrence, Mass.; Wm. G. Schmidt, D.V.S., Newark, N. J.; A. H. Rose, D.V.S., Staten Island, N. Y.; S. S. Field, D.V.S., N. Y. City; W. H. Wray, D.V.S., Dobbs Ferry, N. Y.; Wm. Murphy, V.S., Cambridge, Mass.; J. McLaughlin, V.S., Lynn, Mass.

The chair appointed as Committee on Nominations, A. Lockhart, O. H. Flagg, T. S. Very, J. D. Hopkins, and L. T. Bell. The Committee reported all the present officers for re-election. T. S. Very and E. F. Thayer were appointed tellers to collect and count the ballots, and reported as follows:

For President.—C. P. Lyman, 13 votes; A. Liautard, 2; T. S. Very, 1. *Vice President.*—W. Bryden, 14; L. T. Bell, 1; A. Lockhart, 1. *Recording Secretary.*—A. A. Holcombe, 14. *Corresponding Secretary*—W. J. Coates, 15. *Treasurer*—C. Burden, 14; J. F. Budd. 1. *Board of Censors*—J. L. Robertson, 14; A. Lockhart, 14; J. H. Stickney, 14; A. A. Holcombe, 14; E. F. Thayer, 14; A. Liautard, 14.

The Treasurer reported the finances of the Association in excellent condition.

At 2.30 P.M., a recess for half an hour was taken for refreshments. Upon being recalled, the Secretary read a communication from T. S. Very, reporting a "Singular Fracture and its Results."

J. H. Stickney presented two plates, showing the location and extent of fracture, after which the subject was discussed by Messrs. Liautard, Very, Stickney, Lockhart, and Thayer.

A. Liautard read a paper on *Melanæmia.*

Three beautiful specimens in alcohol were presented with this paper, and the author was warmly applauded on finishing the reading.

A. Liautard then called the attention of the Association to the fact that he had been editor of the *American Veterinary Review* for two years, and tendered his resignation as such, suggesting to the Association at the same time, that when appointing their next editor, they give him the privilege of selecting his own assistants and of conducting the *Review* in accordance with his own judgment.

On motion of T. S. Very, seconded by J. H. Stickney, Dr. Liautard was unanimously re-elected to the editorship, and given the privilege of selecting his assistants and conducting the *Review* as he may think best.

The Secretary then read a paper on "Acute Inflammation of the Air Passages and Pulmonary Emphysema, Arising from the Inhalation of Vegetable Smoke," by J. Myers, Jr., D.V.S., of Cincinnati, Ohio.

A lengthy discussion then followed, upon the different papers read before the Association, most of the members present participating in the debate. At 6 P.M. the meeting adjourned to the Ashland House, corner Fourth Avenue and Twenty-fourth St., where, at 7.30, the members of the Association, with Mr. Hatfield, Superintendent of the Society for the Prevention of Cruelty to Animals, and members of the city press, sat down to a sumptuous dinner.

A toast to "The United States Veterinary Medical Association," was replied to by President Lyman, who spoke in complimentary terms of the work which the Association was doing, and of the harmony and good feeling existing among its members.

"The Veterinary Profession" was responded to by E. F. Thayer, of Boston, Mass., who spoke earnestly of the great importance which the science bears to our national wealth.

"The Medical Profession" was answered by J. H. Stickney, of Boston, Mass., very pleasantly contrasting the "sister sciences," and claiming for our own all possible honor.

"The American Veterinary College" called out Prof. Liautard, who facetiously referred to the early efforts of the Faculty at teaching veterinary medicine, tracing the growth of the College from the time they lectured to one student up to the present, and predicting that a bright future would enable her to add many more able and faithful supporters to the profession.

After dinner pleasant speeches passed away the time until midnight commanded a final adjournment.

A. A. HOLCOMBE, D.V.S.,
Secretary.

REPORTS OF CASES.

A SINGULAR FRACTURE AND ITS RESULTS.

BY THEOD. S. VERY, V.S.

On the 21st of March a buckskin horse showed symptoms of tetanus. He had been kept in a large box-stall, with plenty of straw on a dirt floor, and the accident occurred without any one knowing how it happened.

The peculiar spasm and general appearances of tetanus were not so well marked as in most cases, and there was less excitability. The muscles of the cervical and abdominal regions showed the greatest degree of contraction. There was no particular rigor of the limbs, and no erection of the tail. No lockjaw; appetite fair, and no symptom of local pain. He was moved about and showed no lameness.

March 23d. Details concerning the treatment of tetanus I believe are not of much importance, so I shall not describe mine. To-day the animal showed less excitability than yesterday: has a tolerably full and regular pulse, not much accelerated, and his general appearance was more comfortable. He was able to eat and drink, but not inclined to move about.

March 24th. A messenger brought word that the horse was down and suffering intensely. I found him lying on his left side

thoroughly wet from perspiration. His respiration was at the rate of sixty per minute, pulse about a hundred. The rise and fall of abdominal muscles, in breathing, was extreme; his nostrils were widely distended; and his general appearance indicated speedy collapse. However, I deemed it advisable to make an attempt to get him on his feet, and this was accomplished without great difficulty. To my surprise, after staggering about for less than a minute he was able to stand without help. The jaws were firmly closed and the rigor of the muscles of the neck and body was intense, but in an hour afterwards these symptoms became modified, and gradually, through the day, he grew better, until at night he was able to drink quite well and eat a considerable quantity of soft feed.

March 25th. This morning he stood in his stall looking as if there was nothing amiss with him. He could eat and drink quite well and had a fair appetite. There was scarcely any noticeable spasm of any muscle; respiration normal, pulse 40, tolerably full and regular; membranes slightly injected; no perspiration and no symptom of pain. I judged he would recover.

March 26th. He got down last night, and, with some assistance, was placed on his feet again. This morning he laid down at seven o'clock, and died without a struggle at nine and a half o'clock, before my arrival at the stable.

Post mortem, assisted by Dr. Stickney, at eleven o'clock on the 27th.

All of the internal organs were in an apparently good condition. Stomach and bowels about one half filled with food; bladder empty. Under the ilium, on the off side, there was found a clot of blood as large as a foot ball. The pelvis was fractured in a most unusual and peculiar manner, as were also some of the superior spines of the sacrum; and I will attempt to describe the separated portions of the bones as they appeared after cleaning. Transversely through the foramen ovale, from side to side, there was a complete fracture. Anterior to the acetabulum, the shaft of the ilium was broken and crushed into a number of small pieces, some of which were lost in boiling. The broad anterior portion of the ilium and about four inches of its shaft remained

whole. This left the acetabulum and the portion of the pelvis each side of it, to support the weight of the body, with the assistance of whatever resisting power there was in the muscles or other soft tissues, with which it came in contact in its probably somewhat changed position. The fourth, fifth and sixth spines of the sacrum were broken off below their heads. Two questions at least will naturally arise in the minds of readers.

1st. How could the existence of such a fracture escape notice during life?

2d. Why did he die in the apparently painless manner, and without a struggle, as he did?

To the first of these I will answer that I do not know. The fracture was not observed or suspected, nor was any positive symptom of it present during life. He was in a private stable, adjacent to the residence of the owner, who, together with two grooms, saw him, as I did, every day. Apart from the stiff and awkward gait peculiar to tetanus, he walked well enough when he was moved, and he stood squarely on all his limbs when on his feet. He also got into a fair position when he urinated, and the fact of finding his bladder empty shows that he had passed his water a short time previous to death.

The cause of the fracture is unknown, and I cannot say why his manner of death was so sudden and painless as it was.

PROLAPSUS VAGINÆ BEFORE DELIVERY.

By E. F. Thayer, V.S.

On the 30th of May I was called to see a cow, the property of Mr. Solomon Flagg, of Wellesley. On my arrival I found the animal straining violently, and a portion of the vagina protruding beyond the vulva. The owner stated that the pains came on the evening previous, also "that her time was out." As she did not make any progress, he called in a neighboring farmer, who had had considerable experience among cattle, who made an examination, but was of the opinion that the calf could not be felt. As it was to him an unusual case, he advised the owner to send for me.

On examination, the os was entirely closed; on applying the hands over the uterus, the movements of the fœtus were distinct and vigorous. As the cow was suffering from nervous irritability and exhaustion, I administered an anodyne stimulant and had the rear part of the stall elevated. She soon became quiet, and remained so until the 2d day of June, when a fine, healthy calf was found behind her.

PROLAPSUS VAGINÆ—TORTION OF THE UTERUS—DEATH OF THE COW AND FŒTUS.

By E. F. Thayer, V.S.

I do not report this case as peculiar, but to show the contrast between that and another which occurred in my practice within a short time of each other.

On the 19th of June I was called to see a heifer which, as the owner expressed it, "could not calve." On examination, I found the animal in nearly the same condition as in the former case, with the exception that there was less prolapsus vaginæ. The os uteri was entirely closed. As the bowels were slightly costive, I gave a saline cathartic. On the 20th the condition was about the same, the os remaining tightly closed; the fœtus was alive, yet not as lively as on the day previous. 21st.—The fœtus is evidently dead. By persevering labor, I was able to introduce the finger into the os, but not in a straight line, but to the right. It gave it as my opinion that the uterus was twisted, and had her rolled over and over on the floor, but did not succeed in altering the position of the parts. I informed the owner that I could do nothing but perform the cæsarian operation, but would not advise that, as I did not think she would survive the operation. On the following morning she was dead. I requested the owner to keep the body until I could make the autopsy. On my arrival at ten o'clock, I found the body in pieces. The calf was well developed, and had been dead but a short time. I believe that a twist of the uterus existed, but through the obstinacy of the owner was prevented from proving or disproving it.

IRREGULAR STRANGLES.

By E. F. Thayer, V.S.

On the 10th of August, I was called to attend an abscess in the intermaxillary space of a colt, the property of the estate of the late Benj. E. Bates. The foreman in charge stated that he had opened three, but as this was in the neighborhood of the large blood vessels, he did not dare to. The colt was thin in flesh, but had a good appetite. I advised a liberal quantity of food, and stated that it was a case of irregular strangles, and that there was danger of internal abscess, which, if occurring, would cause a fatal result.

On the 26th, I was called in haste, as the colt was breathing very short. On examination, I found dullness in percussion on both sides; evidently effusion had taken place. Prognosis—death; which occurred on the next day. Autopsy—On removing the walls of the thorax, there was seen sixty-eight quarts of serum, with a large amount of effused lymph. The lungs adhered to the walls and to the diaphragm. In separating the lungs from the diaphragm, an abscess opened which contained eight or ten ounces of clear, white pus. In connection with the pleura, in the anterior part of the thorax, were four other abscesses, containing several ounces each of pus, of the same charter as the one first mentioned.

HOME EXCHANGES.

American Agriculturist, New York; National Live Stock Journal, Illinois; New York Rural, New York; Turf, Field and Farm, New York; Hospital Gazette, New York; Medical Record, New York; Maine Farmer, Maine; Ohio Farmer, Ohio; Scientific Farmer, Massachusetts; Scientific American, New York; Prairie Farmer, Pennsylvania.

FOREIGN EXCHANGES.

Journal de l'Agriculture, Clinica Veterinarier, Archives Veterinaris, Mouvement Medical, Revue fur Thierheilkunde und Thierzucht, Recueil de Medicine Veterinaire.

CORRESPONDENCE.

Dick Royal Veterinary College Circular, J. Myers, Sr.